December 13, 1995

MEMORANDUM

TO: Brian R. Monson, Chief
Operating Permits Bureau
Permits and Enforcement

FROM: Camille D. Ajaka, Air Quality Engineer
Operating Permits Bureau

THROUGH: Susan J. Richards, Air Quality Permits Manager
Operating Permits Bureau

SUBJECT: Technical Analysis for Proposed Tier II Operating Permit #083-00005, Gordon Paving Company, Incorporated, Twin Falls, Idaho

PURPOSE

The purpose for this memorandum is to satisfy the requirements of IDAPA 16.01.01 Sections 400 through 406 (Rules for the Control of Air Pollution in Idaho) for issuing Operating Permits (OP).

FACILITY DESCRIPTION

Gordon Paving Company, Inc., Twin Falls plant was constructed in 1980. The plant is a drum mix hot-mix asphalt plant. The Twin Falls plant consists of the feed system, the rotary drum dryer, the surge bin silos, and the control equipment (knockout box dust separator and Venturi scrubber).

Project Description

This project is for an Operating Permit for the following existing point and fugitive emission sources.

Point Sources:

(1) Drum Dryer Venturi scrubber Stack: Emissions from the rotary drum dryer enter a knockout box dust separator and then exit to an adjustable Venturi scrubber.

Venturi Scrubber Specifications:

Manufacturer:	Gordon Paving Company
Model:	----
Air Capacity:	13,870 ft^3/min
Pressure Drop:	14.0 in. H_2O
Control Efficiency:	99.83% for PM and PM-10
Wet Scrubber Flow	2,600 GPM

Process Equipment

Yanke Machine Company drum-mix, hot-mix asphalt plant, with a rated capacity of 175 tons per hour (T/hr).

Four (4) variable capacity feed bins.

Variable speed feed conveyor belts.

A 8' x 28" rotary drum dryer

An Astraflame Model AF 40, multi fuel burner (waste oil fired), with a

rated capacity of 44.93 million British thermal units per hour (MMBtu/hr)

A 75' x 24" conveyor system

A Caterpillar Model D8 dozer

A Komatsu Model 350 front-end loader

Fugitive Sources:

(1) Stockpiles

(2) Unpaved roads

(3) Paved Roads

A more detailed process description is found in the operating permit application materials.

SUMMARY OF EVENTS

On January 20, 1995, DEQ received an operating permit application from Gordon Paving Company, Incorporated - Twin Falls plant. Additional information was received on March 31, 1995, April 25, 1995, and August 23, 1995. The application was declared complete on September 22, 1995. More information, related to the application, was submitted on November 20, 1995, and on December 7, 1995.

A public comment period is scheduled from December 27, 1995, to January 27, 1996.

DISCUSSION

1. Emission Estimates

Emission estimates were provided by Gordon Paving Company Incorporated. The calculations were resubmitted by the applicant according to DEQ request. DEQ also estimated the emissions from all the sources of the facility (attached spreadsheet). Calculations were based on the maximum production rate of the plant, 175 tons per hour (T/hr), and on the annual operating time, 2,072 hours per year.

All emissions were estimated using emissions factors furnished by AP-42, 5th edition. Emissions estimates of PM, PM-10 were based on the emissions limits stated in 40 CFR 60 Subpart I. Emissions estimates of NO_x, CO, and VOC were calculated using emissions factors of oil fired dryer of batch mix hot-mix asphalt plant (Tables 11.1-2 and 11.1-7). Emissions estimate of SO_2 was calculated using emission factor of waste oil combustion (AP-42, Table 1.11-2) and assuming that the sulfur content of waste oil to be 1.75% as required by IDAPA 16.01.01.727.02. Emissions from transfer points were estimated using the predictive equation in the 5th edition of AP-42, Section 13.2.4-3. Emissions from stockpiles were estimated using emissions factors listed in the 4th edition of AP-42 Table 8.19.1-1 (such factors were not available in the 5th edition). Emissions from paved and unpaved roads were estimated using predictive equations listed in the 5th edition of AP-42, Section 13.2. All emissions calculations are provided in the attached spreadsheet.

2. Wet Scrubber Exhaust Stack Parameters

Stack Height	32.00 ft
Exit Diameter	2.80 ft
Exit Flow rate	13870 ACFM
Exit Temperature	150°F

3. Modeling

Modeling for impact analysis for the various emissions from the facility's point source was performed by Mary Walsh, DEQ meteorologist, based on DEQ's emissions estimates.

The hourly, daily, and annual periods of operation were considered in the modeling. It was found that for the permitted production rate and operating schedule, all the criteria pollutants are well within the national standards for the facility area.

Fugitive emissions were not modeled because estimated fugitive emissions are expected to vary considerably from the source's actual emissions. Modeling results would reflect the emission estimates with an added level of conservatism built into the modeling. Because of the range and accuracy questions involved in the emissions estimates, modeling of fugitive emissions was not conducted.

4. Area Classification

Gordon Paving Company, Incorporated, Twin Falls, Twin Falls County, Idaho. This area is located in AQCR 63. The area is classified as attainment or unclassifiable for all federal and state criteria air pollutants (i.e., PM, PM-10, CO, NO_x, VOCs, and SO_x).

5. Facility Classification

The facility is not a designated facility as defined in IDAPA 16.01.01.006.25. The facility is classified as an A2 source because the actual emissions of any criteria pollutant is less than 100 tons per year (T/yr).

6. Regulatory Review

This operating permit is subject to the following permitting requirements:

a.	IDAPA 16.01.01.401	Tier II Operating Permit
b.	IDAPA 16.01.01.403	Permit Requirements for Tier II Sources
c.	IDAPA 16.01.01.404.01(c)	Opportunity for Public Comment
d.	IDAPA 16.01.01.404.04	Authority to Revise or Renew Operating Permits
e.	IDAPA 16.01.01.406	Obligation to Comply
f.	IDAPA 16.01.01.470	Permit Application Fees for Tier II Permits
g.	IDAPA 16.01.01.625	Visible Emission Limitation
h.	IDAPA 16.01.01.650	General Rules for the Control of Fugitive Dust
i.	IDAPA 16.01.01.700	Particulate Matter -- Process Weight Limitations
j.	IDAPA 16.01.01.808	Rules for the Control of Hot-Mix Asphalt Plants
k.	40 CFR 60 Subpart I	New Source Performance Standards (NSPS) for Hot-Mix Asphalt Plants

7. Performance Test Requirements

Since the source was constructed in 1980, this source should have obtained a construction permit. A source test is required to show compliance with federal new source performance standards (NSPS) emission standard requirements for hot-mix asphalt plants in accordance with 40 CFR 60 Subpart I.

8. Non Major Tier I Applicability

Per IDAPA 16.01.01.301.02.b.i, this source is not required to obtain a Tier I operating permit until June 1, 1999.

FEES

Fees apply to this facility in accordance with IDAPA 16.01.01.470. The facility is subject to permit application fees for Tier II permits of five hundred dollars ($500.00). IDAPA 16.01.01.470 became effective on March 7, 1995.

RECOMMENDATIONS

Based on the review of the Tier II Operating Permit application and of applicable state and federal regulations concerning the permitting of air pollution sources, staff recommends that Gordon Paving Company, Incorporated, located at Twin Falls, Idaho, be issued a Tier II Operating Permit for the sources that are described in the facility's permit application. An opportunity for public comment on the air quality aspects of the proposed permit shall be provided as required by IDAPA 16.01.01.404.01. Staff also recommend that the facility be notified of the Tier II permit fee requirement in writing. This fee will be applicable upon issuance of the permit.

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Attachment

cc: R. Lupton, SCIRO
Source File
COF

Gordon Paving Company, Inc. TWIN FALLS FACILITY Contact Person: Ken Hansen
P.O. Box 4011 PTC #:
Burley, ID 83318

Operating Permit Application

General Data

Avg. Asphalt Production	362600 tons/year
Avg. Operating Hours	2072 hours/year
Avg. Production Rate	175 tons/hour

Operating Schedule

Up to	Avg.	Unit
10	8	hr/dy
7	7	dy/wk
50	37	wk/yr

Rotary Drum Dryer Data

Avg. Annual Waste Oil Use	642320 gal/year
Avg. Hourly Waste Oil Use	310.00 gal/hr
Wate Oil Heating Value	144000 btu/gal
Burner Capacity	44.64 MM Btu/hr

Waste Oil Analysis

Component	S	N	C	H	Water	Ash	Total
Percentage	1.08	0.21	78.5	14	0.34	1.35	95.48
Component	Arsenic	Cadmium	Chromium	Lead	Cl^-	F^-	Total
Percentage	0.00025	0.00011	0.00032	0.006	0.015	0.005	0.03
Total							95.51

Emissions from Waste Oil Combustion

Pollutant		E. Factor lb/1000gal	Reference AP-42, 5th	Cont. Eff. %	Hourly E. lb/hr	Annual E. ton/yr
PM	61A	82.35	T 1.11-1	99.83	0.04	0.04
PM-10	51A	68.85	T 1.11-1	99.83	0.04	0.04
SOx	S_{limit}=1.75 147S	257.25	T 1.11-2	0	79.75	82.62
NOx		19	T 1.11-2	0	5.89	6.10
CO		5	T 1.11-2	0	1.55	1.61
VOC		0.1	T 1.11-3	0	0.03	0.03
Lead		0.33	T 1.11-1	0	1.02E-01	1.06E-01
HCl		0.99	T 1.11-3	0	3.07E-01	3.18E-01
Arsenic		1.10E-01	T 1.11-4	0	3.41E-02	3.53E-02
Cadmium		9.30E-03	T 1.11-4	0	2.88E-03	2.99E-03
Chromium		2.00E-02	T 1.11-4	0	6.20E-03	6.42E-03
Cobalt		0.00021	T 1.11-4	0	6.51E-05	6.74E-05
Manganese		6.80E-02	T 1.11-4	0	2.11E-02	2.18E-02
Nickel		0.011	T 1.11-4	0	3.41E-03	3.53E-03

Emissions from Drum Mix Hot-Mix Asphalt Plant (Oil Fired Dryer)

Pollutant	Flow Rate acfm	E. Limit gr/dscf	E. Factor lb/ton	Reference	Cont. Eff. %	Hourly E. lb/hr	Annual E. ton/yr
PM	13870	0.04		CFR 60.93		4.76	4.93
PM-10	PM10 : PM	0.23		T 11.1.5		1.08	1.11
SOx			0.056	T 11.1.8	0	9.80	10.15
NOx			0.075	T 11.1.8	0	13.13	13.60
CO			0.036	T 11.1.8	0	6.30	6.53
VOC			0.069	T 11.1.8	0	12.08	12.51
POM			1.70E-04	T 11.1-10	0	2.98E-02	3.08E-02
Formaldehyde			0.0012	T 11.1-10	0	0.21	0.22

Emissions from Transfer Points

E=k(0.0023)(U/5) ^ 1.3/(M/2) ^ 1.4 Ref.: AP-42, 13.2.4-3 5th

k (PM) = 1

k (PM-10) = 0.35

Source	U mph	M %	Transfer Points #	E. Factor lb/ton	Cont. Eff. %	Hourly E. lb/hr	Annual E. T/yr
PM (Transfer Points)	9.4	4	8	0.0020	0	2.77	2.87
PM-10 (Transfer Points)	9.4	4	8	0.0007	0	0.97	1.01

February 28, 1996

MEMORANDUM

TO: Orville D. Green, Assistant Administrator
Permits and Enforcement

FROM: Brian R. Monson, Chief
Operating Permits Bureau

SUBJECT: Issuance of Tier II Operating Permit #083-00005 to
Gordon Paving Company, Incorporated (Twin Falls)

PURPOSE

The purpose of this memorandum is to satisfy the requirements of IDAPA 16.01.01 Sections 400 through 406 (Rules for the controls of Air Pollution in Idaho) for issuing Operating Permits.

PROJECT DESCRIPTION

This project is for the issuance of a Tier II Operating Permit for the Gordon Paving Company, Incorporated, facility located at Twin Falls, Idaho, in order to establish the facility as a synthetic minor source. The only emission point source existing at the facility is controlled by a Venturi scrubber. Fugitive emission sources found at the facility are stockpiles and haul roads.

SUMMARY OF EVENTS

On January 20, 1995, DEQ received an operating permit application from Gordon Paving Company, Incorporated - Twin Falls plant. Additional information was received on March 31, 1995, April 25, 1995, and August 23, 1995. The application was declared complete on September 22, 1995. More information, related to the application, was submitted on November 20, 1995, and on December 7, 1995. On December 21, 1995, a proposed Tier II Operating Permit was issued for public comment. No comments were received.

RECOMMENDATIONS

Based on the review of the Operating Permit application, and on applicable state and federal regulations concerning the permitting of air pollution sources, the Bureau staff recommends that Gordon Paving Company, Incorporated, Twin Falls, Idaho, be issued a Tier II Operating Permit. Staff also recommends that the facility be notified in writing of the obligation to pay permit application fees for the Tier II permit.

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cc: R. Lupton, SCIRO
OP File Manual
Source File
COF